

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** HADALAN FV 12P
- **Article number:** 50315 B
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture**
Colour deepener for colour intensification of HADALAN® natural stone putty mixtures with HADALAN® NSK 20D
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Heinrich Hahne GmbH & Co. KG
Heinrich-Hahne-Weg 11
45711 Datteln Tel.: 02363/5663-0
- **Further information obtainable from:**
Abteilung: Produktsicherheit
Tel.: 02363 5663-0
Email: info@hahne-bautenschutz.de
- **1.4 Emergency telephone number:**
Gif tinformati onszentrum Nord (GIZ Nord) Universität Göttingen,
Tel.: 0551-19240

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS07

- Acute Tox. 4 H332 Harmful if inhaled.
- Skin Sens. 1 H317 May cause an allergic skin reaction.
- STOT SE 3 H335 May cause respiratory irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
- **Hazard description:** Xi Irritant
- **Information concerning particular hazards for human and environment:**
R 20 Harmful by inhalation.
R 37 Irritating to respiratory system.
R 43 May cause sensitization by skin contact.
Contains isocyanates. Can cause allergic reactions.
- **Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



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- **Signal word** Warning

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· **Hazard-determining components of labelling:**

Hexamethylendiisocyanat-Oligomer
hexamethylene diisocyanate

· **Hazard statements**

H332 Harmful if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

· **Precautionary statements**

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 **IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P312 **IF INHALED:** Call a POISON CENTER or doctor/physician if you feel unwell.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P302+P352 **IF ON SKIN:** Wash with plenty of soap and water.

· **Additional information:**

Contains isocyanates. May produce an allergic reaction.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.
· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**

· **Description:** Preparation based on aliphatic polyisocyanates.

· **Dangerous components:**

CAS: 28182-81-2	Hexamethylendiisocyanat-Oligomer ☒ Xn R20; ☒ Xi R37; ☒ Xi R43 ⚠ Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	50-100%
CAS: 822-06-0 EINECS: 212-485-8	hexamethylene diisocyanate ☒ T R23; ☒ Xn R42/43; ☒ Xi R36/37/38 ⚠ Acute Tox. 3, H331; ⚠ Resp. Sens. 1, H334; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	< 0.5%

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:** Drink plenty of water and provide fresh air. Call for a doctor immediately.

· **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

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SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
Use fire fighting measures that suit the environment.
Foam, carbon dioxide, dry chemical, water fog, water spray jet.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet.
- **5.2 Special hazards arising from the substance or mixture**
Possible formation of carbon monoxide, nitrogen oxide, isocyanate vapors and traces of hydrogen cyanide in fires.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Do not inhale explosion gases or combustion gases.
Self-contained breathing apparatus.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected people away.
- **6.2 Environmental precautions:**
Do not empty into drains or waterways.
Inform respective authorities in case of seepage into water course or sewage system.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure adequate ventilation at the workplace.
Avoid contact with skin and eyes.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool, dry place.
- **Information about storage in one common storage facility:** Keep away from foodstuffs.
- **Further information about storage conditions:**
Open containers carefully to prevent closure of the reaction with atmospheric moisture.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

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· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

822-06-0 hexamethylene diisocyanate (< 2.5%)

WEL	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
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· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

· **Respiratory protection:** With good ventilation is not required.

· **Protection of hands:**

Protective gloves

Suitable materials: butyl rubber, nitrile, PVC

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Goggles recommended during refilling

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Fluid

Colour: yellowish, transparent

· **Odour:** Characteristic

· **Change in condition**

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: Undetermined.

· **Flash point:** 160 °C

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Density at 20 °C:** 1.14 g/cm³

· **Solubility in / Miscibility with water:**

Not miscible or difficult to mix.

· **Viscosity:**

Dynamic at 20 °C: 400 mPas

· **9.2 Other information** No further relevant information available.

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SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
Exothermic reactions with amines and alcohols. With water forming CO₂ - in closed containers, pressure build-up bursting.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
Acute toxicity, by oral route:
Hexamethylene-1,6-diisocyanate homopolymer
LD50 rat: > 5000 mg / kg
Acute toxicity, by inhalation:
Hexamethylene-1,6-diisocyanate homopolymer:
LC50 rat, male: 543 mg / m³, 4 h
Method: OECD Test Guideline 403
LC50 rat, female: 390 mg / m³, 4 h
Method: OECD Test Guideline 403
The substance was tested in a form (ie, specific particle size distribution) which is of the forms as they are marketed and used in all probability, is different. On the basis of the "split-entry" concept and the available data on the particle size during the final application of the material, a modified classification of the acute inhalation toxicity is warranted.
Subacute, subchronic and prolonged toxicity:
Hexamethylene-1,6-diisocyanate homopolymer
Application Route: Subacute inhalation toxicity study, rat
Method: OECD Test Guideline 412
Test concentrations - 4.3, 14.7 and 89.8 mg aerosols / m³
Exposure time - 3 weeks (6 hours a day, 5 days per week)
4.3 mg / m³ without compensation tolerated concentration (NOEL)
14.7 mg / m³ increase in lung weight,
89.8 mg / m³ inflammatory changes in the respiratory tract.
Links to other organ damage except to the respiratory systems were raised.
Genotoxicity in vitro:
Hexamethylene-1,6-diisocyanate homopolymer
Test Type: Salmonella / microsome test (Ames test)
Result: No evidence of mutagenic effects.
Method: OECD Test Guideline 471
Test Type: Chromosome aberration test in vitro
Result: negative
Method: OECD Test Guideline 473
Test Type: point mutation in mammalian cells (HPRT test)
Result: negative
Method: OECD Test Guideline 476
For more information:
Hexamethylene-1,6-diisocyanate homopolymer
Special Features / Effects: If over-exposure - especially when spraying isocyanate paints without protective measures, there is the risk of concentration-dependent irritation of eyes, nose, throat and respiratory tract. Delayed appearance of the complaints and development of hypersensitivity (difficult breathing, coughing, asthma) are possible. Hypersensitive persons may already be triggered at low isocyanate concentrations below the TLV value. By prolonged contact with skin tanning and irritating effects are possible. Animal

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experiments and other studies indicate that skin contact with diisocyanates in isocyanate sensitization and respiratory reactions may play a role.

· **Acute toxicity:**

· **Primary irritant effect:**

· **on the skin:** slightly irritating

· **on the eye:** slightly irritating

· **Sensitisation:** Sensitisation possible through skin contact.

· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Irritant

SECTION 12: Ecological information

· **12.1 Toxicity**

Acute toxicity to fish:

Hexamethylene-1,6-diisocyanate homopolymer

LC50 > 100 mg / l

Species: *Danio rerio* (Zebrafish)

Exposure time: 96 h

Method: OECD Test Guideline 203

Sample preparation because of the reactivity of the substance with water:

Ultra turrax: 60 sec 8000 rpm, 24 magnetic stirrer; filtration.

Acute Toxicity to daphnia:

Hexamethylene-1,6-diisocyanate homopolymer

EC50 > 100 mg / l

Species: *Daphnia magna* (water flea)

Exposure time: 48 h

Method: OECD Test Guideline 202

Sample preparation because of the reactivity of the substance with water:

Ultra turrax: 60 sec 8000 rpm, 24 magnetic stirrer; filtration.

Acute Toxicity to algae:

Hexamethylene-1,6-diisocyanate homopolymer

IC50 > 100 mg / l

Tested to: *Scenedesmus subspicatus* Duration of test: 72 h

Method: OECD Test Guideline 201

Sample preparation because of the reactivity of the substance with water:

Ultra turrax: 60 sec 8000 rpm, 24 magnetic stirrer; filtration.

Acute Toxicity to bacteria:

Hexamethylene-1,6-diisocyanate homopolymer

EC50 > 1000 mg / l

Tested on: activated sludge test time: 3 h

Method: OECD Test Guideline 209

· **Aquatic toxicity:** No further relevant information available.

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential**

Hexamethylene-1,6-diisocyanate homopolymer

Biodegradation: 0%, 28 d, i.e. not readily biodegradable

Method: OECD Guideline 301 C

For more information on ecotoxicology:

The resin reacts with water at the interface to form carbon dioxide at a fixed, high-melting and insoluble reaction product (polyurea). This reaction is accelerated by surfactants (eg detergents) or water-soluble solvents.

Polyurea is inert Previous experience and non-degradable.

· **12.4 Mobility in soil** No further relevant information available.

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- **Ecotoxicological effects:**
- **Remark:** Harmful to fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Harmful to aquatic organisms
Water hazard class: 1
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
 - **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
 - **European waste catalogue**
- | | |
|-----------|---|
| 08 01 11* | waste paint and varnish containing organic solvents or other dangerous substances |
|-----------|---|
- **Uncleaned packaging:**
 - **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- | | |
|---|---------------------|
| · 14.1 UN-Number | Void |
| · ADR, IMDG, IATA | Void |
| · 14.2 UN proper shipping name | Void |
| · ADR, IMDG, IATA | Void |
| · 14.3 Transport hazard class(es) | Void |
| · ADR, IMDG, IATA | Void |
| · Class | Void |
| · 14.4 Packing group | Void |
| · ADR, IMDG, IATA | Void |
| · 14.5 Environmental hazards: | No |
| · Marine pollutant: | No |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · Transport/Additional information: | No dangerous goods. |

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SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **National regulations:**

· **Technical instructions (air):**

Class	Share in %
I	0,4

· **Waterhazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

R20 Harmful by inhalation.

R23 Toxic by inhalation.

R36/37/38 Irritating to eyes, respiratory system and skin.

R37 Irritating to respiratory system.

R42/43 May cause sensitisation by inhalation and skin contact.

R43 May cause sensitisation by skin contact.

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

Acute Tox. 3: Acute toxicity, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3